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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 January 2005*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 January 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All   b)☐ Some * c)☐ None of:

　　　　1.☐ Certified copies of the priority documents have been received.

　　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　　3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
　　Paper No(s)/Mail Date *19 January 2005*.

4)☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2.   **Claims 1, 5-6, 9-10, 14-16, 19 and 22** are rejected under 35 U.S.C. 102 (b) as

being anticipated by Ludwig et al (EP 0948168 A1).

    Regarding claim 1, Ludwig et al. discloses a method for selecting a window size

(determining control window", recited in column 7-8, lines 54-60/ "calculated window

size", recited in column 7, lines 48-53) for a packet switched connection ("packet

exchange connection", recited in abstract, lines 1-5) between a sending party (Fig. 7,

"sender 300") and a receiving party (Fig. 7, "receiver 302") wherein the sending party

("sender determines control flow", recited in abstract, lines 5-13) uses a window based

congestion control mechanism for avoiding or handling congestion ("flow control",

recited in abstract, lines 9-13) on a communication path used for the connection, a

window size ("window, acknowledgement message", recited in column 1-2, lines 58 and

lines 1-12) defining the maximum number of data packets that can be sent by the

sending party before an acknowledgement of the reception of a packet is received by

the sending party comprising the steps of:

(a) retrieving information about a bit rate ("determined bandwidth link", recited in column 14, lines 22-29) of a link belonging to the communication path across which the connection between the parties (Fig. 7, sender 300 and receiver 302) is set up,

(b) retrieving information about an estimation of a round trip time ("value characteristic of RTT", recited in column 14, lines 34-41) on the connection between the parties (Fig. 7, sender 300 and receiver 302),

(c) determining an estimation of a pipe capacity ("calculation of flow control window", recited in column 16, lines 1-6) for the connection between the parties (Fig. 7, sender 300 and receiver 302) according to the retrieved bit rate and the round trip time of the connection ("RTT" recited in column 14, lines 34-41),

(d) determining an upper threshold value ("bottleneck window as the control window"-traffic is regulated according to it, recited in column 16, lines 12-19) for the window size based on the pipe capacity, and

(e) selecting a window size ("chosen control window" recited in column 16, lines 19-24), wherein the window size ("minimum advertised", recited in column 16, lines 22-23) is above zero and below or equal to the upper threshold value "advertised window will be below the maximum input of receiver buffer).

Regarding claim 5, Ludwig et al. discloses a method, wherein the communication system (packet exchange network" recited in column 9, lines 15-17) is a cellular communication system ("cellular telephone" recited in column 9, lines 13-14) and the link is a wireless link ("radio transmission", recited in column 9, lines 8-12).

Regarding claim 6, Ludwig et al. discloses a method wherein the window size ("employing window size", recited in column 7, lines 54-58) is for an initial window ("advertised window" recited in column 7-8, lines 55-57 and lines 1-3).

Regarding claim 9, Ludwig et al. discloses a method, wherein further comprising the steps of:

(a) receiving a congestion indication ("advertised window sent by the receiver", recited in column 2, lines 10-14) for the connection ("communication" recited in column 2, lines 3-5) before an acknowledgement for all packets ("acknowledgement packets", recited in column 2, lines 1-9) sent in an initial window ("advertised window size", recited in column 2, lines 45-49), or a restart window (advertised bottle neck window", recited in column 17, lines 27-38) is received, and selecting a smaller window size ("control window", recited in column 7-8 lines, 54-58 and 1-3).

Regarding claim 10, Ludwig et al. discloses a method, wherein the selected smaller window size ("minimum advertised", recited in column 16, lines 22-23) is about half of the window size ("one half of the control window" recited in column 6, lines 45-48) used before unless the former window size was one.

Regarding claim 14, Ludwig et al. discloses method further comprising the steps of: monitoring for a predefined number of seconds ("monitoring RTT and time lapses", recited in column 20, lines 51-57) or number of connection set-ups or restarts that no congestion indication is received for a connection before an acknowledgement for all packets sent in an initial window ("advertised window size", recited in column 2, lines 45-49) a loss window, or a restart window is received ('measuring and updating of

bottleneck window", recited in column 36-42) and selecting a larger window size

("adding bottleneck window", recited in column 9, lines 45-48) that is smaller than or

equal to the upper threshold value ("link bandwidth", recited in column 29-33).

Regarding claim 15, Ludwig et al. discloses a method wherein the selected

larger window size ("adding bottleneck window to existing windows", recited in column

9, lines 45-48) differs from the window size used before by a predefined constant

number ("account of local information of link bandwidth"-which implies that new window

will be different from previous one by fraction- recited in column 10, lines 6-11).

Regarding claim 16, Ludwig et al. discloses a method wherein the steps of

receiving ("receiving partner", recited in column 17, limes 30-33) of the congestion

indication ("minimizing congestion" recited in column 17, lines 10-14), the monitoring,

and the selecting of the larger window size ("input buffer limit of advertised window",

recited in column 17, lines 33-39) are performed separately for different destinations

("links consideration" recited in column 10, lines 15-19).

Regarding claim 19, Ludwig et al. discloses a window size selecting unit

("calculated and then employed it", recited in column 7, lines 48-53) for a

communication system for ("packet exchange connection", recited in abstract, lines 1-5)

connecting a sending party (Fig. 7, "sender 300") and a receiving party (Fig. 7, "receiver

302"), wherein the sending party is adapted to use a window based congestion control

mechanism ("control window or congestion window", recited in column 7, lines 54-61)

for avoiding or handling congestion on a communication path ("connection links", recited

in column 7 lines 35-41), the window size ("window, acknowledgement message",

recited in column 1-2, lines 58 and lines 1-12) defining the maximum number of data

packets that may be sent by the sending party before an acknowledgement of the

reception of a packet is received by the sending party, comprising:

(a) an input/output (Fig. 7, "sender 300") and a receiving party (Fig. 7, "receiver

302") unit for sending and receiving data ("connection partners" recited in column 11,

lines 28)

(b) a processing unit ("control hardware", recited in column 12, lines 15-25) for

controlling the other units ("partners in connection", recited in column 12, lines 16-17),

comprising a selection unit ("chosen control window" recited in column 16, lines 19-24)

for selecting a window size ("minimum advertised", recited in column 16, lines 22-23)

above zero and below for a connection between the parties ("connection partners"

recited in column 11, lines 28).

Regarding claim 22, Ludwig et al. discloses a threshold value determining unit

("determined bandwidth values", recited in column 12, lines 26-34) comprising an

input/output unit (Fig. 3, "sender/receiver"), a pipe capacity determining unit for

determining a round trip time ("determined RTT / Fig. 8, St 3", recited in column 14,

lines 32-45) of a connection and a bit rate of the connection (Fig. 8, St 4 "determination

of bandwidth", recited in column 14, lines 22-32), and for determining the pipe capacity

("control window as the bottleneck window", recited in column 16, lines 1-6) of the

connection from the round trip time and the bit rate ("bandwidth value of links" recited in

column 8, lines 14-21), and a processing unit ("control hardware", recited in column 12,

lines 15-25) for controlling the units ("partners in connection", recited in column 12, lines

16-17) and calculating an upper threshold value ("determining control window" recited in

column 9, lines 41-44) for further use in a window size selecting unit ("adding bottleneck

window", recited in column 9, lines 45-48).

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating obviousness or nonobviousness.

5.   This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

6.   **Claims 2, and 17-18** are rejected under 35 U.S.C. 103(a) as being unpatentable

over Ludwig et al. in view of Blanco et al (US 6,249, 530 B1).

Ludwig teaches all the subject matter of the claimed invention with the exception

of disclosing a method further comprising the step of storing the selected window size

together with an indication of the pipe capacity, or a predefined range of pipe capacities

comprising the pipe capacity of the connection as recited in **claim 2**, a method, wherein

the selected window size is used for a further connection with the same pipe capacity or

with a pipe capacity within the same predefined range of pipe capacities, that is set-up

or restarted as recited in **claim 17**, a method, wherein the selected window size is used

for a further connection with the same destination and the same pipe capacity or with a

pipe capacity within the same predefined range of pipe capacities, that is set-up or

restarted as recited in claim **18**. However, Blanco in a similar field of endeavor

discloses a method further comprising the step of storing (Fig. 9, window size register,

recited in column 9, lines 46-49) the selected window size ("chosen window", recited in

column 9, lines 53-58) together with an indication of the pipe capacity (Fig. 9, "controller

80, recited in column 9, lines 40-48), or a predefined range of pipe capacities ("used

bandwidth", recited in column 9, lines 29-34) comprising the pipe capacity of the

connection ("communication flow" , recited in column 3, lines 2-5), **regarding claim 17**,

a method wherein the selected window size (fig. 8, S3 and S4 "compute and setting

window size", recited in column 8, lines 28-36) is used for a further connection (fig.

1,"plurality of stations 10", recited in column 10, lines 7-11) with the same pipe capacity

("bandwidth communication flow" recited in column 8, lines 40-46) or with a pipe

capacity within the same predefined range of pipe capacities ("bandwidth flow", recited

in column 7, lines 52-56), that is set-up, **regarding claim 18**, a method wherein the

selected window size(fig. 8, S3 and S4 "compute and setting window size", recited in

column 8, lines 28-36) is used for a further connection (fig. 1,"plurality of stations 10",

recited in column 10, lines 7-11) with the same destination ("bandwidth for destination

buffer", recited in column 8, lines 44-51) and the same pipe capacity ("bandwidth

communication flow" recited in column 8, lines 40-46) or with a pipe capacity within the

same predefined range of pipe capacities ("bandwidth flow", recited in column 7, lines

52-56, that is set-up. Therefore, it would have been to one of ordinary skill in the art at

the time the invention was made to modify the method and device for data flow control

of Ludwig by using the network bandwidth control as taught by Blanco in order to

provide.............. (See Blanco, column 3, lines 13-27).

7.   **Claims 3-4 and 7** are rejected under 35 U.S.C. 103(a) as being unpatentable

over Ludwig et al. in view of Kamath et al (US 7,237,007).

        Regarding claim 3-4 and 7, Ludwig et al. teaches all the subject matter of the

claimed invention with the exception of disclosing the following features, regarding

claim 3, a method further comprising the step of determining a destination of the

connection, and wherein the selected window size is stored together with an

identification of the destination, **regarding claim 4**, a method, wherein the

communication system is a cellular communication system and the destination includes

a location area, a routing area, a cell, a service area or an area served by a radio

network controller, a mobile services switching centre, a radio base station or a serving

general packet radio service support node, **regarding claim 7**, a method, wherein the

sending party includes a proxy server, a mobile user equipment, a radio network

controller, a radio base station or a general packet radio service support node.

However, Kamath et al. in a similar field of endeavor teaches discloses a method further

comprising the step of determining a destination ("packet ID", recited in column 2, lines

54-58) of the connection ("flow control connection", recited in column 8, lines 49-52),

wherein the selected window size is stored (fig. 2, window size 214, recited in column 5,

lines 32-38 or "buffer size" recited in column 2, lines 51-54) together with an

identification ("packet ID" and fig.2 Data ID 220, recited in column 5, lines 31-36) of the

destination as recited in **claim 3**, a method wherein the communication system (See

Fig. 1, "components", recited in column 3, lines 54-59) is a cellular communication

system ("wireless system", recited in column 4, lines 35-40) and the destination("packet

ID", recited in column 2, lines 54-58) includes a location area ("base Station

Transceiver", recited in column 4, lines 28-34), a routing area ("communication being

routed", recited in column 35-38) a cell (Fig. 1, mobile unit 110, recited in column 4,

lines 59-65) an area served by a radio network controller (fig. 1, Base Station Controller

122, recited in column 6, lines 8-16), a radio base station fig. 1, Base station

Transceiver 116, recited in column 4, lines 28-32) as recited in **claim 4**, a method

("window size monitor module" recited in column 7, lines 5-16), wherein the sending

party ("data transmitted", recited in column 2 lines 38-40) includes a proxy server (Fig.

1, data server 126, recited in column 4, lines 35-41) a mobile user equipment (Fig. 1,

Mobile unit 110, recited in column 4, lines 59-65), a radio network controller (fig. 1, Base

Station Controller 122, recited in column 6, lines 8-16), a radio base station (fig. 1, Base

station Transceiver 116, recited in column 4, lines 28-32) or a general packet radio

service support node as recited in **claim 7**. Therefore, it would have been obvious to

one of ordinary skill in the art at the time the invention was made to modify the method

and device for data flow control of Ludwig et al. by using the method and system for

flow control between a base station controller and base station transceiver as taught by

Kamath in order to provide........... (See Kamath, column 2, lines 36-50).

8.   **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ludwig et

al. in view of Chapman et al (US 6,493,316 B1).

Ludwig et al. teaches all the subject matter of the claimed invention above. Ludwig et al

is however silent with respect to a method, wherein the upper threshold value is in

range of plus or minus two packets around twice the pipe capacity. However, Chapman

et al. in a similar field of endeavor discloses a method wherein the upper threshold

value ("maximum permitted window bandwidth", recited in column 3, lines 29-33) is in

range ("vary between one packet" recited in column 4, lines 55-60) of plus or minus two

packets around twice the pipe capacity ("maximum transmission rate", recited in column

4, lines 52-55). Therefore, it would have been obvious to one of ordinary skill in the art

at the time the invention was made to modify the method and device for data flow

control of Ludwig by using features as taught by Chapman in order to

provide.................... (See Chapman, column 6, lines 1-20)

9.   **Claims 11-13** are rejected under 35 U.S.C. 103(a) as being unpatentable over

Ludwig et al. in view of Aweya et al (US 6,990,070 B1).

Regarding claim 11, Ludwig discloses a method further comprising of detecting

an increase in the pipe capacity ("monitor of link bandwidth" recited in column 11, lines

39-46 and lines 51-56) of the connection ("access link", recited in column 11, lines 49-

51), and selecting a new window size ("window value as the control window", recited in

column 12, line 5-10) for the connection ("access link", recited in column 11, lines 49-

51), wherein the new congestion window size ("control window" controlling flow from the

sender and the receiver side, recited in column 11-12, line 1 and lines 1-5) is one of an

initial window size ("advertising control window" recited in column 20 lines 13-18), that

are used for connections ("link connection", recited in column 11, lines 35-38) with the

same pipe capacity ("physical link bandwidth", recited in column 11, lines 51-54).

However, Ludwig is silent with respect to explicitly state a method, wherein the

congestion window size for the connection is set to the selected window size value as

recited in **claim 12**, a method, wherein a slow start threshold value for the connection is

set to the selected window size value as recited in **claim 13**. However, Aweya et al. in

a similar field of endeavor discloses a method, wherein the congestion window size

("transmitter adjusting size of congestion window" recited in column 5, lines 8-10) for the

connection ("receiver engages transmitter", recited in column 4, lines 46-50) is set to the

information about a pipe capacity, wherein the comparing is adapted to compare stored destinations and determined destinations as recited in claim 21. However, Blanco et al. teaches window size selecting unit (fig. 8, compute current window size S3 and set current window size S4" recited in column 8, lines 27-36), further comprising a storage (fig. 9, window register 92, recited in column 9, lines 40-49) for storing window sizes together with an information about a pipe capacity ("bandwidth communication flow", recited in column 8, lines 40-46) as recited in claim 20, window size selecting unit (fig. 8, compute current window size S3 and set current window size S4" recited in column 8, lines 27-36) and the information about the pipe capacity ("bandwidth communication flow", recited in column 8, lines 40-46) as recited in claim 21. However, Blanco does not discloses the following features: a destination determining unit for determining a destination of a connection, wherein the storage is adapted to store an identification of a destination together with the window size, and wherein the comparing unit is adapted to compare stored destinations and determined destinations. However, Kamath et al. in a similar field of endeavor discloses a comparing unit (fig. 3, Flow control Module 302"comparison of data packets" recited in column 9, lines 31-41) as recited in claim 20, a destination unit for determining a destination ("packet ID", recited in column 2, lines 54-58) together with the window size (fig. 2, window size 214, recited in column 5, lines 32-38 or "buffer size" recited in column 2, lines 51-54), and the comparing unit (fig. 3, Flow control Module 302"comparison of data packets" recited in column 9, lines 31-41)is adapted to compare stored destinations (fig. 2, ID 220 and 218, recited in column 5, lines 55-63) and determined destinations ("packet ID", recited in column 2, lines 54-58

selected window size value ("advertised window indicated" recited in column 5, lines 10-16) as recited in **claim 12**, a method, wherein a slow start threshold value ("maximum volume of data", recited in column 4, lines 52-57) for the connection ("receiver engages transmitter", recited in column 4, lines 46-50) is set to the selected window size value ("receiver volume and advertised window", recited in column 4, lines 58-62) as recited in **claim 13**. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method and device for data flow control of Ludwig et al. by using the method and apparatus for adjusting packet transmission volume from a source as taught by Aweya et al in order to provide............... (See Aweya, column 3, lines 6-26).

10.   **Claims 20-21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ludwig et al (EP 0948168 A1) in view of Kamath et al (US 7,237,007 B2) as applied to claim 18 above, and further in view of Blanco et al (US 6,249,530 B1).

Regarding claims 20-21, Ludwig et al. teaches comparing unit for comparing stored pipe capacity (updated of bandwidth" recited in column 7, line 44-47 and stored capacity is link capacity, recited in column 8, lines 28-36) determined pipe capacity ("determined bandwidth value", recited in column 7, lines 42-44) as recited in **claim 20**. Ludwig is silent however with respect to storage for storing window sizes together with the pipe capacity with regard to **claim 20**, window size selecting unit, further comprising a destination unit for determining a destination of a connection, where the storage is adapted to store an identification of a destination together with the window size and the

as recited in claim 21. Therefore, it would have been obvious to one of ordinary skill at the time the invention was made to modify the method and device for data flow control of Ludwig et al. by using features as taught by Blanco and Kamath in order to provide.............. (See Blanco, column 3, lines 13-27for first motivation), and in order to provide....... (second motivation, see Kamath, column 2, lines 36-50).

Conclusion

11.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ha et al (US 2002/0150048 A1), Ruutu et al (US 6,219,713 B1), Burt et al (US 5,592,627) and Hadi Salim et al (US 6,625,118 B1) are cited to show method and systems that are related to claimed invention.

12.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Candal Elpenord whose telephone number is (571) 270-3123. The examiner can normally be reached on Monday through Friday 7:30AM to 5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang Bin Yao can be reached on (571) 272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number: 10/521,837   Page 16
Art Unit: 2616

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CE

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SUPERVISORY PATENT EXAMINER